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# STZUE – STEEZWARE ULTRAEDIT TOOLKIT

14 June 2013 by Scott McDonell

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## OVERVIEW


stzUE is a set of UltraEdit tools that provide rich support for editing ProvideX and PxPlus source code (text) programs and Nomads libraries. The tools are based on those developed by Sage Software for the development of its Everest (4.x) version of MAS 90. Sage abandoned the tools in favor of the plug-in developed for the Eclipse IDE, but steezware teamed up with ERP Developers to update the tools to specifically work with PxPlus. stzUE is used by steezware and ERP Developers for developing PxPlus applications, but the tools should also work with other versions of ProvideX, such as the 8.31, 9.30 and 9.40 interpreters used by recent versions of MAS 90 and Sage 100.

## TOOLS

There are seven utility programs in the stzUE toolkit:

	stzUESave	Checks the syntax of the current source file in the editor, and optionally compiles it, backs it up, and checks it for user-defined warnings.
	stzUEsearch	Searches programs and text files using complex search criteria.
	stzUEinsert	Displays data from a Pvx data dictionary, a message library, or a Pvx class and allows selected items to be inserted into the current source file opened in the UE editor.
	stzUEinvoke	Invokes the Pvx command-line, the Nomads designer, data dictionary maintenance, or PxPlus online help. Also allows user-defined actions to be added to the invoke-tasks window.
	stzUEpgmtxt	Converts a program file opened in the editor to a text file, optionally formatting it and removing its line numbers.
	stzUEtrace	Reformats a Pvx trace output file for easier display in the UE editor, allowing for code folding and color-coding of syntax.
	stzUEproject	Settings for maintaining programs and Nomads libraries are defined as projects, which are maintained with this tool. The save, search and insert tools require an interpreter to be defined in a project.

## REQUIREMENTS

PxPlus v11	<p>PxPlus v11 must be used to run the stzUE tools.</p> <p> Note that compilation of programs by stzUESave and the running of Pvx tasks by stzUEinvoke are not dependent on PxPlus, as both tools allow for the selection of any ProvideX or PxPlus interpreter.</p>
UltraEdit v19	stzUE was developed using UltraEdit version 19, and has not been tested on earlier versions. If you are new to UE, you can download a 30-day trial from the IDM website. Also, note that IDM Corporation has graciously agreed to provide a 20% discount to users of stzUE, which is described below in Chapter 1.
c:\steezware\stzUE	All stzUE programs and files must be installed in the c:\steezware folder.
stzUEpx System Variable	In order for the stzUE tools to properly function, the stzUEpx environment variable must be defined to indicate the location of the PxPlus interpreter.
PvxDax.DLL	The PvxDax.dll object must be registered with the operating system.

## CHAPTER 1 / INSTALLATION

### PXPLUS INTERPRETER

If you do not already have PxPlus version 11 or higher installed on your computer, download it from the following site:

<http://www.pvxplus.com/pgsrvr.pvp?pg=downloads>



PvxPlus Technologies sells a complete “Developer Version” of PxPlus for a subscription price of only \$100/year per programmer. Contact their sales department at this [link](#) for more information.

### ULTRAEDIT

Download UltraEdit version 19 (or higher) from this site:

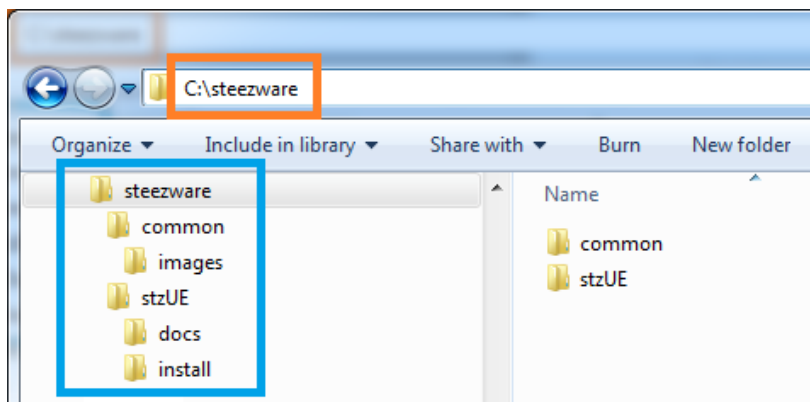
[http://www.ultraedit.com/downloads/ultraedit\\_download.html](http://www.ultraedit.com/downloads/ultraedit_download.html)

The good folks at IDM Corporation have shown their support for our community by providing a 20% discount on UltraEdit and all other IDM products for users of stzUE. When ordering from the IDM website, use coupon code **stzUE8541257932**.

Note that this discount coupon is limited to 100 uses and expires on 12/31/2014 - act fast so you don't miss out!

### INSTALL STZUE

stzUE.zip contains all files and programs necessary to configure UltraEdit and run the stzUE tools. Folders must be created exactly as defined in the zip file, with everything simply unzipped to the C:\ root folder. After unzipping the file, you should have a c:\steezware main folder with subfolders as shown below:

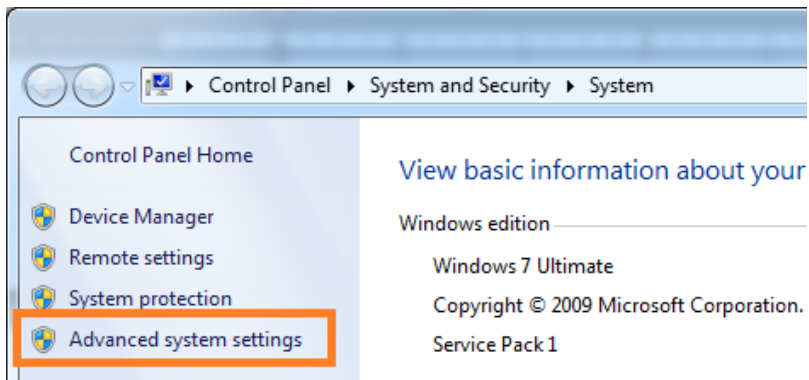


The C: drive must be used for installing stzUE, since the UE tool definitions have dependencies based on the “c:\steezware\” folder structure. You cannot use D: or any other drive letter or mapping.

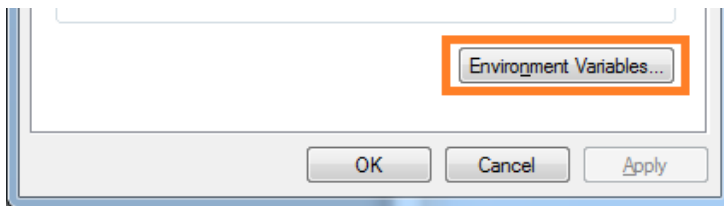
## STZUEPVX WINDOWS SYSTEM ENVIRONMENT VARIABLE

On the Windows task bar, click [Start], and then right-click on Computer and select Properties

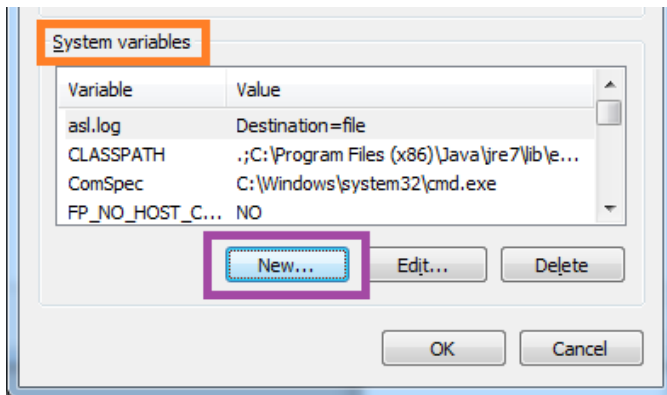
Select [Advanced systems settings] to open the System Properties window



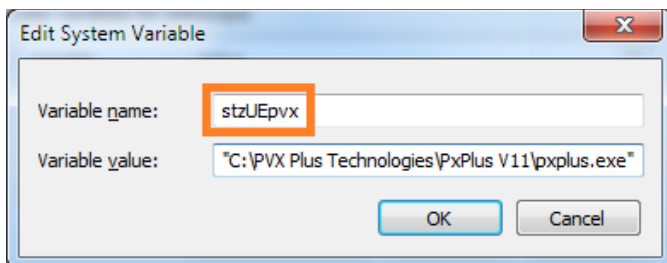
Click [Environment Variables...]



Under System Variables, click [New...]



Create a new system environment variable named **stzUEpvx** (case-sensitive). For its value, enter the full path to the PxPlus interpreter that will be used to run the stzUE tools.



- ➡ The variable value must point to PxPlus version 11 or higher.
- ➡ The entire value **must** be enclosed in quotes.

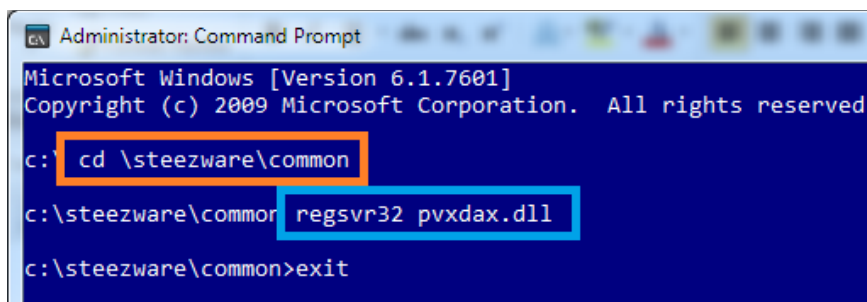
Click [OK] to save the variable, click [OK] - [OK] to close System Properties, and then close the Windows properties window.

## PvxDax.DLL

- ➡ If you are a Sage developer and have Sage 100 or MAS 90 installed on your PC, PvxDax.DLL is already registered and you can skip this section.

The pvxdax.dll file must be registered, following these steps...

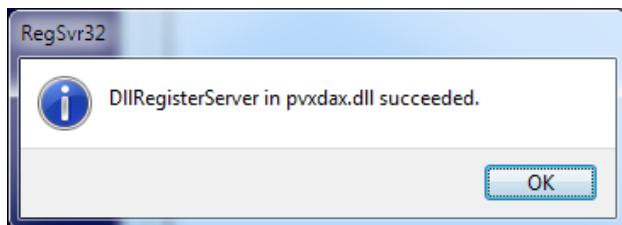
1. Run the Windows Command Prompt (Start – All Programs – Accessories – Command Prompt)
2. Change to the c:\steezware\common folder
3. Enter **regsvr32 pvxdax.dll** and press Enter



```
Administrator: Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

c:\> cd \steezware\common
c:\steezware\common> regsvr32 pvxdax.dll
c:\steezware\common> exit
```

If the DLL is successfully registered, the following message is displayed.



4. Enter **exit** to close the command prompt

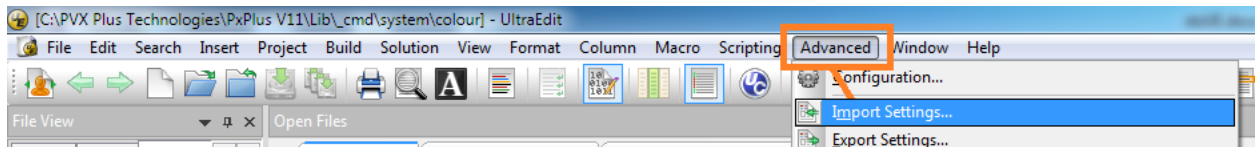
## CHAPTER 2 / ULTRAEDIT SET UP

Run UltraEdit to perform the following steps.

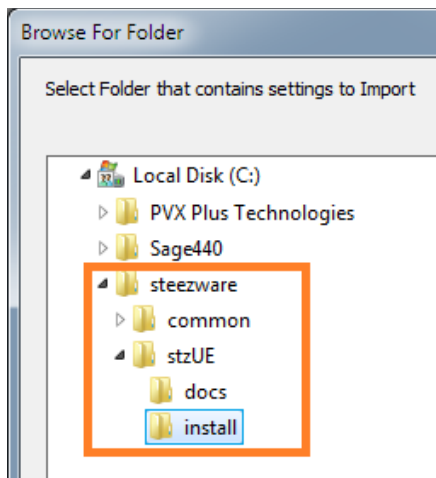
### IMPORT SETTINGS

Import the settings and tool configuration into UltraEdit by following these steps:

Select [Advanced] – [Import Settings...]



Select the c:\steezware\stzUE\install folder...

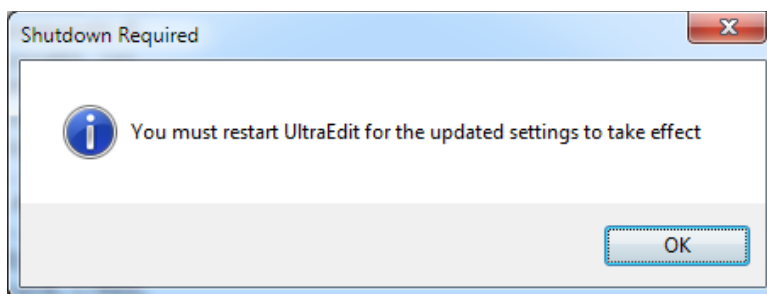


... and then click [OK]. The stzUE\install folder contains a Uedit32.ini file that stores stzUE-specific settings that are merged into your current UltraEdit INI file.



If you already have UltraEdit configured with specific settings and tools, you may wish to first export your settings before importing the stzUE settings, since many of your tools and settings may get overwritten.

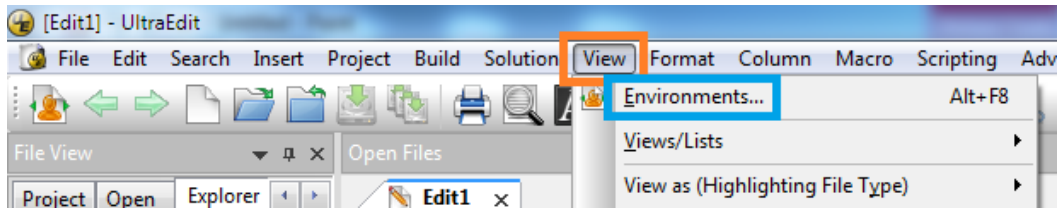
After importing the settings, you must close and restart UltraEdit.



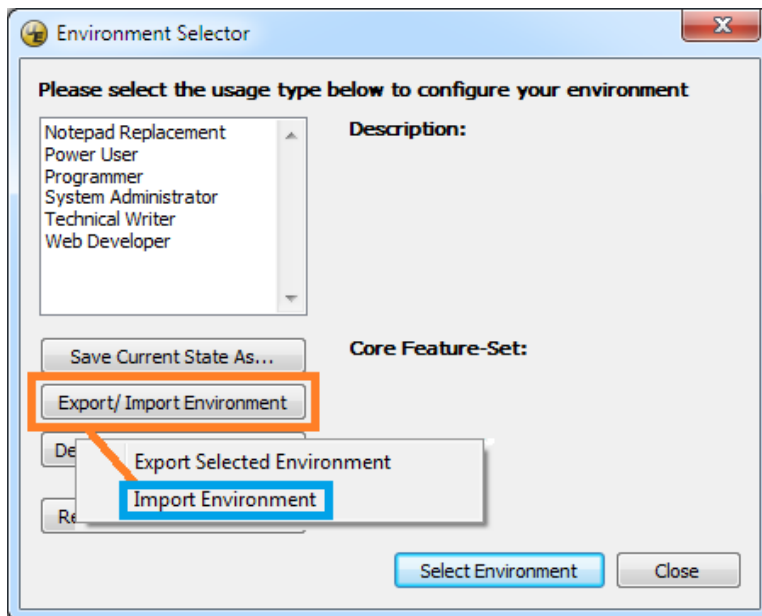
### ULTRAEDIT ENVIRONMENT

stzUE provides an environment file that alters the tool bars and layout of UltraEdit to better suit development of Pvx and PxPlus programs. To install the stzUE environment, follow these steps:

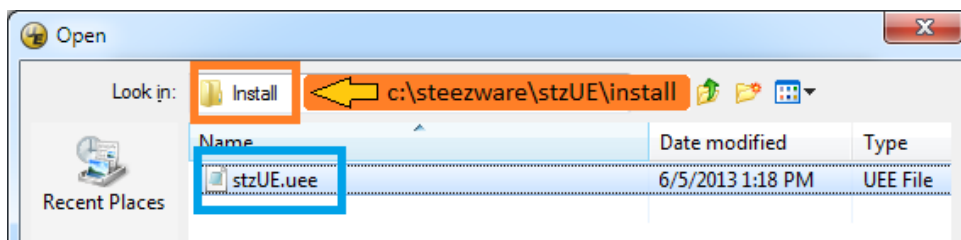
Select [View] – [Environments...]



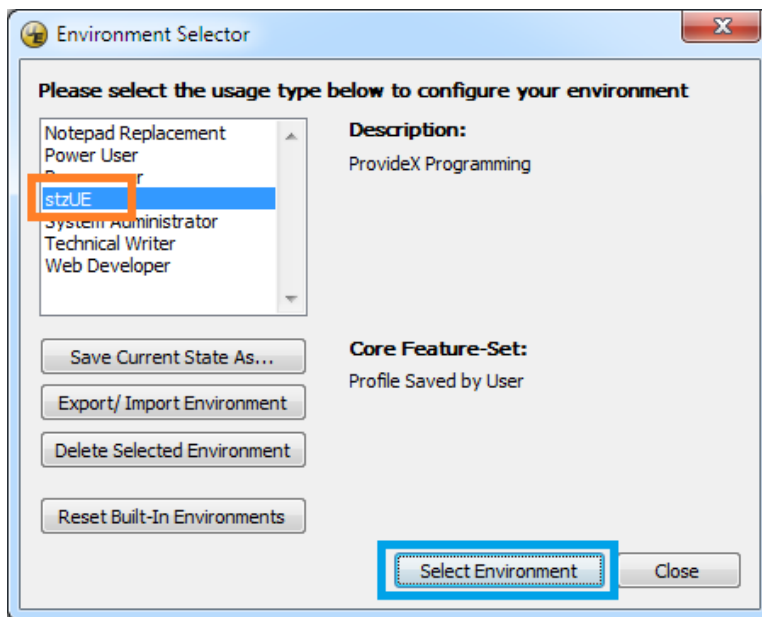
Click [Export/Import Environment] then [Import Environment]



Browse to the C:\steezware\stzUE\install folder, select stzUE.uee and click [Open]

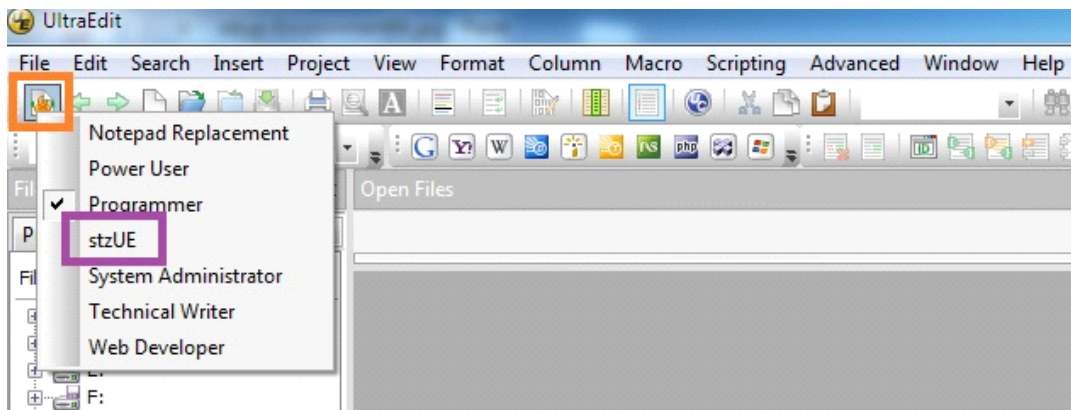


When you return to the previous window, stzUE will be displayed in the list. Select stzUE, and then click [Select Environment]



On the Select Environment confirmation window, click [Yes].

When you close UltraEdit, the next time you run it the stzUE environment will be restored. If you wish to change the environment for other purposes, you can return to the stzUE environment by clicking the button at the top left of the toolbar...



...or by selecting the [View] – [Environments] menu option as explained above.

#### MOVING THE FUNCTION LIST

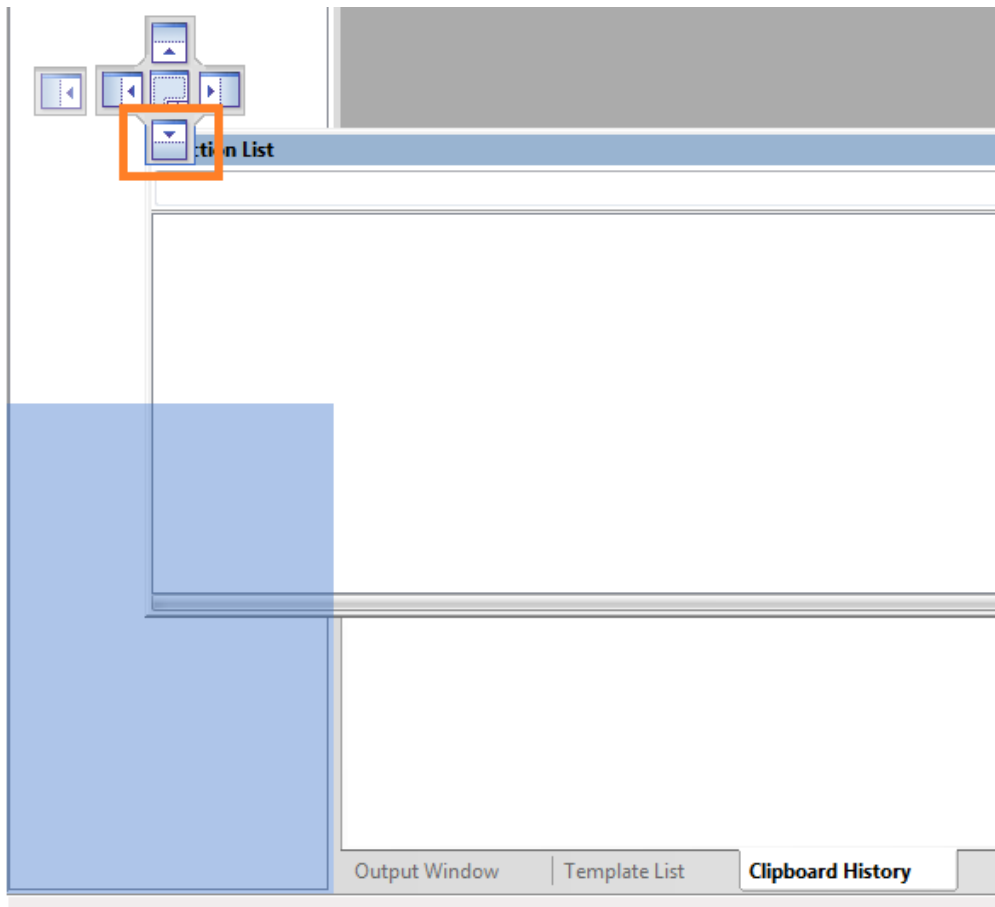
At the bottom of the UE window are four tabs. The third tab – Function List – shows the line labels in the file being edited. To make the line labels list easier to access, this tab can be dragged and anchored to the left side of the window, below the navigation pane.

Click-and-hold on the “Function List” tab at the bottom of the window:





Drag the tab to the left of the window and hover over the [anchor-down] button until you see the lower-left corner of the screen shaded in blue ... then release the mouse button:



After the function list is anchored, you can grab its top edge to increase its height to show more labels.

## ULTRAEDIT WORD FILE

The UE word file is used for coloring syntax, automatic indentation of certain constructs, and for code-folding. stzUE provides the following word files:

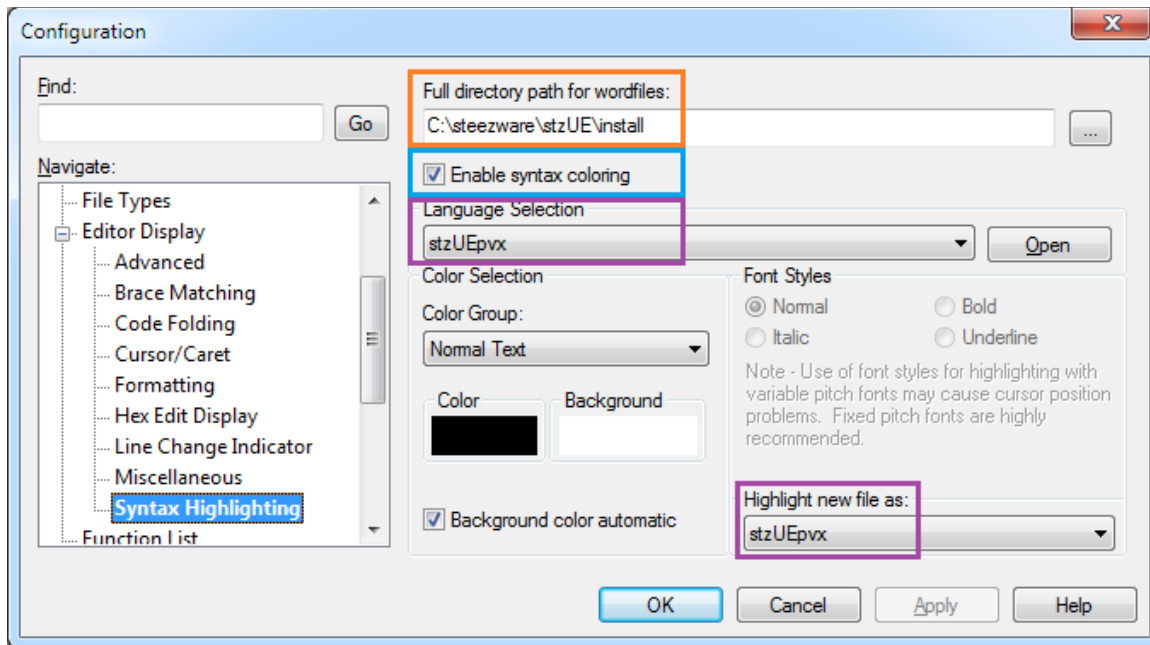
- |                       |   |
|-----------------------|---|
| stzUEwordfile.uew     | Contains ProvideX and PxPlus syntax definitions. During installation, this word file is set as the default. |
| stzUEwordfileSage.uew | Same as above plus has an additional section named "Sage" for highlighting Sage-specific syntax components. |

When importing UE settings – as described above – the directory path to the stzUE word files and the language selection options are automatically set. To use different syntax highlighting – for example, to use the included stzUESage word file – follow these steps:

Select [Advanced] – [Configuration] from the UE tool bar

Open the [Editor Display] tree node and select [Syntax Highlighting]

1. The “Full directory path for wordfiles” must be c:\steezware\stzUE\install
  - ✓ After changing the wordfile path, you **must** click [Apply] at the bottom of the window before selecting the language in steps 3 and 4 below.
2. Select the “Enable syntax coloring” option
3. In the “Language Selection” dropbox, select stzUEpvx or stzUESage
4. Also select stzUEpvx or stzUESage in the “Highlight new file as” dropbox
5. Click [OK] to close this window



➡ If you want to change the default stzUE syntax coloring schemes, choose a group from the “ColorGroup” dropbox on this window, and then click on “Color” or “Background”.

➡ Both word files have an unused section named “User-Defined” where you can specify words that you wish to highlight in the editor.

To edit the user-defined section of the word file, it is recommended that you close UltraEdit and use Notepad or another simple editor to make the changes. Each word should be placed on a separate line and cannot include spaces, and the terms **must** be in alphabetical order. If you want to include a term with spaces, simply enter both terms on separate lines, as with the “JANE” and “DOE” words in the following example. Also, make sure to not include words in this section that are already found elsewhere in the word file, and do not make changes to any other section of the word file.

*Example:*

```
/C8"User-Defined"
CodeReview
DOE
JANE
PXPLUS
steezware
```

## CHAPTER 3 / RUNNING THE STZUE TOOLS

The buttons for the seven stzUE tools are found near the right end of the “Main” toolbar.



As you hover over each button, a floating tip indicates the tool name and a brief description. The stzUE tool icons have a steezware-orange line across the bottom, to distinguish them from other UE buttons.

### EULA

The first time you select any tool, you are prompted to accept the End-User License Agreement.

### DONATE WINDOW

After using the tools for about a week, a window will appear offering you the opportunity to make a donation to steezware for the stzUE toolkit. stzUE is free to use and there is no obligation or expectation that a donation be made, but keep in mind that literally hundreds of hours have been spent developing the tools and steezware is committed to continued enhancement of the tools and to respond to user questions and submissions in its support forum.

You will only be presented the donate window one-time, unless you delete the c:\steezware\common\stzOptions.sw1 settings file, or if you install stzUE on a new computer. Feel free to completely ignore this window, but if you want to donate at a later time, you may do so at [steezware.com/donate.html](http://steezware.com/donate.html)

### TOOL PERSISTENCE

Each tool is invoked as a standalone Windows process, so when you close UltraEdit, any active stzUE tool will remain open and should be manually closed.

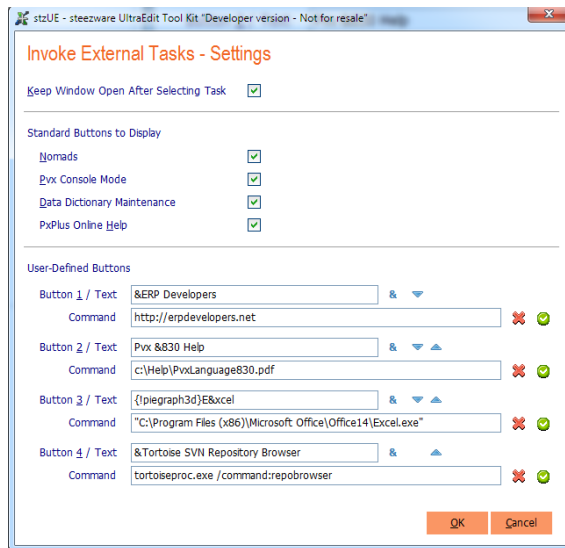
### STZUE TOOL INSTRUCTIONS

Each of the stzUE tools has well-defined captions and floating tool tips to help you easily understand each data entry field and button action, so full coverage of using each tool is not documented here. However, some fields call for additional explanation which is found below. If you have further questions about the operation of a tool or understanding how it works, please search the stzUE/Tools forums on [steezware.com/support.html](http://steezware.com/support.html), or add a new topic of discussion if you do not find an answer to your search.

#### STZUE PROJECT

Link to UE Project	If you are using UltraEdit projects, you can bypass the stzUE project selection prompt by linking your stzUE project to a UE project. When you save a program or invoke a Pvx task or run the program search tool, if a stzUE project is found that is linked to the current UltraEdit project, its interpreter and settings are automatically selected without prompting you to select a project
Save Program ↳ Check Subfolders	If you select the Save Program option, you must enter a folder in which to save the compiled program. Selecting the “Check Subfolders” option instructs stzUEsave to scan under the save folder for any occurrence of the file being saved. This is useful – and necessary – when your programs are located in subfolders under a parent folder. For example, if you are saving AP_Vendor.pvc which resides in the “AP” subfolder under your specified save folder, stzUEsave will find it and save to that location.
Click to Maintain	While checking the text file for syntax errors, you can optionally specify that other items be found

Warnings File	– and optionally modified – in the source code. The warnings are stored in the c:\steezware\stzUE\install\stzUEwarnings.txt file.
[Share] and [Import] Buttons	Use the [Share] option to create a file that contains all of the settings of a project. This file can then be shared with another stzUE user to import into his projects.
[Common] Button	If you have not defined a link to a UE project (see above), each time you save a program or run another tool that is dependent on stzUE project settings, you are prompted to select the project. You can opt to always use a selected project to bypass being prompted each time, but if you want to reset such selections, click the [Common] button.
STZUESAVE	
“Select the program you want to save...”	If the “Check Subfolder” project option is selected (see above) and the program being compiled is found in multiple subfolders under the main save folder, you are prompted to choose which program to save.
STZUEINVOKE	
Project	The project selection only applies to the Nomads, Pvx Command-Line, and Data Dictionary Maintenance options, since these processes must be invoked with the appropriate interpreter.
[Settings]	<p>You can remove standard buttons from the window, or add up to 4 of your own. You also have the option to keep the invoke window active after choosing a task, since its normal behavior is to close after a task button is pressed.</p> <p>If no user-defined buttons are defined, the standard buttons appear down the middle of the invoke window. If you have no standard buttons selected but do have user-defined buttons, they will also appear in the middle of the window. If you have both standard and user-defined buttons, they will be displayed side-by-side – standard buttons on the left and user-defined on the right.</p> <p><i>Notes on setting up your own buttons:</i></p> <p>In the “Text” field enter the text to display on the button. To include a hotkey, precede the hotkey letter with an ampersand, or use the [&amp;] button to toggle through the hotkey possibilities, since it is cognizant of other control hotkeys and will skip over them. Since the text format follows Nomads standards, you could even include an image as shown in Button 3 below by enclosing it in { } curly braces.</p> <p>If the command line has spaces in it – as in the fully-qualified path to Excel.exe as shown below for Button 3 – you may need to include it in quotes.</p> <p>To experiment with your commands, click the [Test] –green checkmark – button.</p>



## STZUE TRACE

pgLVL>  
pgLVL<  
pgLVL-

Each program level in the trace is indicated with pglVL> when a new program is executed, pglVL< when a program exits to a lower level, and pglVL- if the program remains at the same level. These indicators allow for code-folding sections of the trace, but it is possible and frequent for the trace fragment to have another closing code fold point without a matching opening fold point, which makes folding based on pglVL> and pglVL< impossible, so use code-folding with caution.

## SAVE LOGIC OVERRIDE

stzUESave includes a hook to a called program named “stzUESaveovr”. This program allows you to override the normal save logic to assign a different save path, a different save program name, or to bypass saving the program altogether. For example, if you have an extension of .PVT on your source file and want to change it to .HBP for your compiled program, this can easily be done by modifying this program.

stzUESaveovr.src is found in the c:\steezware\stzUE\install folder. It is provided as a formatted source code text file, with clearly defined code snippets and remarks to assist you in modifying the program. To modify and use this program, do the following:

1. Open c:\steezware\stzUE\install\stzUESaveovr.src in UltraEdit.
2. To activate the program, you must remove the EXIT statement near the top of the program, or remark it out.
3. The full path and name to the source file is passed in the srcFILE\$ variable, and the path/name of the compiled program is passed as saveFILE\$. The paths and names of the source and compiled files are parsed out for you.
4. You can set the return variable noSAVE to non-zero to instruct stzUESave to not compile and save the program, or you can change the path and/or the name of the program to be saved.
5. After making your changes, save the file but **do not compile or move it** from the install folder.
  - Since there is a minimal amount of code executed in this program, it does not hinder the save logic much by leaving it as a text file.
  - stzUESave expects to find this program in the “install” folder, so do not move it or rename it.



To assist in debugging, feel free to add ESCAPEs to break and step thru the code, but use caution when modifying this program since it could jeopardize the underlying compile/save logic if it introduces bad behavior or errors.

## ULTRAEDIT TIPS

### AUTOMATIC INDENTATION

When you begin a line with one of the following strings, the next line is automatically indented...

```
{  
FOR  
WHILE  
REPEAT  
SELECT  
SWITCH  
CASE  
DEFAULT  
DEF FN
```

...and the following commands trigger the current line to automatically unindent...

```
}  
NEXT  
WEND  
UNTIL  
NEXT RECORD  
END SWITCH  
BREAK  
BREAK  
END DEF
```



Note that IF, THEN, and ELSE are not automatically indented. Best practice for defining IF statements is to use { } curly brackets, which provide automatic indentation and allow for code-folding. Example:

```
IF condition {  
    process this true-condition code  
} ELSE {  
    process this other code  
}
```

### CHANGING CASE

You can select a word or phrase and change its case with the following hotkeys:

- [F5] Capitalize
- [ALT+F5] Uppercase
- [CTRL+F5] Lowercase
- [Shift+F5] Invert Case

### COLORS

To set colors not related to syntax highlighting – for example, how the current line is highlighted – select the [View] - [Set Colors...] menu option.

### COLUMN MODE

Use [ALT+C] to switch between column mode and standard mode. Column mode may be used to select columnar sections of the source code.

### COMPARING PROGRAMS

Select [FILE] - [COMPARE] to compare source code files.

### CTRL-E – ERASE CURRENT LINE

Press [CTRL+E] to erase the current line in the editor.

If you want to change this to use [CTRL+D] - the Eclipse key combination for deleting a line - do the following:

1. Choose [Advanced] - [Configuration] from the UE menu bar
2. Find "Key Mapping"

3. Next to the "Commands:" caption, turn on the "Sort" checkbox
4. Scroll down to find **EditHexInsertDelete** in the list
  - This is the default UE option for the CTRL+D key combination, so...
5. Click [Remove] to release the key combination
6. Scroll up in the list to find **EditDeleteLine**
7. In the "Press New (multi-)key" field, click and hold the [CTRL] key and then press the letter "D" key
8. Click [Assign] to add CTRL+D to the "Existing Keys"
9. Select CTRL+E under "Existing Keys" and click [Remove]
  - The only assignment for "ExistingKeys" should now be CTRL-D

## ESCAPE

To set an escape into a program which automatically opens the debug/command-mode window, enter the following on a unique line in the source code:

```
PREINPUT -1301 ; ESCAPE
```

For this to open the command-mode debug window, you must have Debug=1 set in the [Config] section of your INI file:

```
[Config]
...
Debug=1
DebugPlus=1
```

The stzUE environment includes a template that will automatically insert this code for you. Simply type "ES" then CTRL+Spacebar and a small window will pop up that has "ESCAPE" with a small letter "T" icon beside it. Use your mouse or arrow key to select this template, and the code will be inserted for you.

Note that in this example, the Pvx system variable ESC is also displayed. This is because CTRL+Spacebar can be used with any introductory characters to open a list of suggestions – for example, enter just "E" (or "e") then CTRL+Spacebar to see all directives and functions that begin with the letter "E".

To add your own templates, go to [Advanced] – [Display/Modify Templates...].

## FONTS

To set editor fonts, select the [View] - [Set Font...] menu option. Note that it is best to not use a variable-width font for editing, since the tab/indentation spacing may differ when viewed on another machine that uses a fixed-width font.

## FUNCTION LIST

The UltraEdit "Function List" is used to display line labels in the current program. Its window can be docked or left free-floating – see "Moving the Function List" in Chapter 2.

1. Double-click on a label to jump directly to it.
2. Right-click on the list to sort the labels or to show labels in all project programs.

## HIGHLIGHTING BRACKETED ITEMS

Use [CTRL+B] to search for and highlight bracketed items. You may then continue to press [CTRL+B] to expand to brackets outside the current bracketed selection.

UltraEdit defines bracketed items as those which are enclosed in parentheses ( ), brackets [], or braces {}.

## VIEWING LINE NUMBERS

To view the physical line numbers of the source code, select the [View] - [Display Line Numbers] menu option.

## VIEWING SPACES AND TABS

To view spaces, tabs and paragraph marks, access the [View] - [Show Spaces/Tabs] menu option.

## ULTRAEDIT PROJECTS

UltraEdit projects provide an easy way to manage and group associated files. When you open a project, all the programs open when last editing the project are automatically reopened. You can also search across all programs in a project and display a list of all line labels in all project files (see “Function List” above). By double-clicking on one of the line labels in the list, UltraEdit automatically jumps to the program and positions the current line at the label.

A project is defined by an INI-type text file that has an extension of .PRJ. These files may be maintained in any desired location, for example, c:\steezware\stzUE\ueProjects.

## CREATING A NEW PROJECT

Select the [Project] - [New Project/Workspace] menu option and specify a name for your project. It is suggested that you keep all projects defined in the same location – using the “ueProjects” folder mentioned above, for example.

If you currently have files opened for editing, you will be prompted to close them. If the project will include the opened files, click [No] and you will be able to add them easily to the new project.

If you left files opened that you want added to the project, choose [+All Open Files], which will add them to Project Files list.

To add programs to the project, choose [Add File...].

To remove programs from the project, select one or more files and choose [Remove Item].

Leave “Project Directory”, “Optional Wordfile” and “Optional CTAG File” blank.

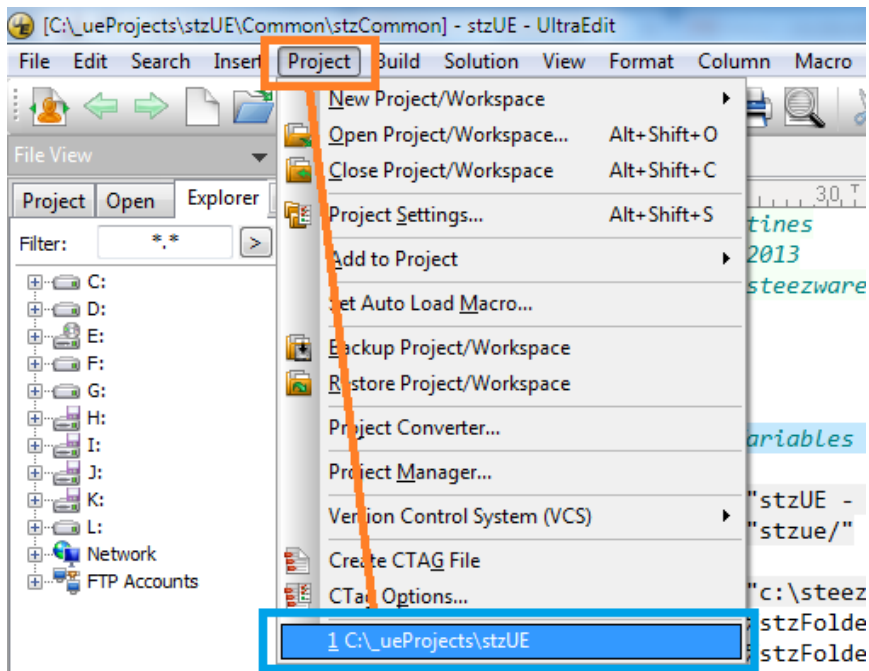
Click [Close] after all program files have been added to the project.

## OPENING A PROJECT

Select the [Project] - [Open Project/Workspace] menu option. This merely opens a file explorer window from which you select a .PRJ project file.



A list of the recently used projects is also shown at the bottom of the [Project] menu, which allows you to quickly open a project:



#### CLOSING A PROJECT

Select the [Project] - [Close Project/Workspace] menu option. When prompted to close the open files, it is recommended that you select [Yes].

#### MODIFYING A PROJECT

The only maintenance a project requires is adding and removing programs in its file list.

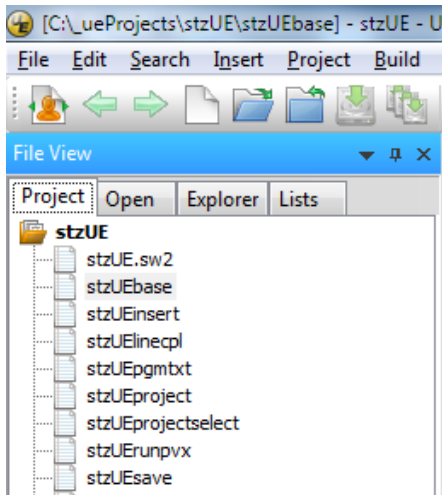
Select the [Project] - [Files/Settings] menu option. If you do not currently have a project open, this menu item is disabled.

Use the Add and Remove options to modify the file list.

If any project file is not currently opened for editing, select it from the file list and press Open.

## USING A PROJECT

The “File View” pane has a “Project” tab that displays the current project and a tree-view list of its files. If you do not see the File View pane, click CTRL-U to display it.



On the [Search] menu, the [Find in Files] option allows you to search all open files or all project files. When searching, a window opens showing the results of the search. You can double-click on a line in the results window and UltraEdit will jump to it.



Note that stzUEsearch only searches folders and cannot restrict a search to UE project files.